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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/609,068	06/27/2003	Andrew James Cameron	47406-013000	7462
33717	7590	03/06/2006	EXAMINER	
GREENBERG TRAURIG LLP 2450 COLORADO AVENUE, SUITE 400E SANTA MONICA, CA 90404			SHAH, SAMIR M	
			ART UNIT	PAPER NUMBER
			2856	

DATE MAILED: 03/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary**Application No.**

10/609,068

Applicant(s)

CAMERON, ANDREW JAMES

Examiner

Samir M. Shah

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 February 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 8 and 14-16 is/are rejected.
- 7) ☒ Claim(s) 4-7, 9-13 and 17-20 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 09/09/2004.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: "a virtual grid system (20)", on page 6, paragraph [0023], first line. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

3. The disclosure is objected to because of the following informalities:
4. The word "thought" on page 7, line 1, should be replaced by – though --. The word "assumes" on page 9, line 13, should be replaced by – assuming --. The phrase "Fig. 8 shows" on page 10, line 9, should be replaced by – Figs. 8a-8p show --.

Appropriate correction is required.

Claim Objections

5. Claims 4, 5, 9, 10, 17, 18 are objected to because of the following informalities:
6. Regarding claims 4, 9, 17, there is no proper antecedent basis for "said grid element". It is confusing whether the applicant is referring to "each grid element" or a particular "grid element".
7. Regarding claims 5, 10, 18, there is no proper antecedent basis for "said grid". It is confusing whether the applicant is referring to "grid system" or a particular "grid element" or "each grid element".

Appropriate correction is required.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1, 2, 3, 8, 14, 15, 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Kim et al. (US Patent 6,484,300 henceforth "Kim").

10. Regarding claims 1, 8, Kim discloses “a method of obtaining an effective pattern density” in an “integrated circuit” including the steps of: “defining a grid of pattern cells” on a layer of an integrated circuit (column 15, lines 10-13); determining a pattern density or the amount of metal within a given area in each grid element and thereby computing a measure of the pattern density from the area of the metal (column 3, lines 43-45) (for a detailed description of “pattern density” please refer to US Patent 5,552,996 to Hoffman et al.). Kim also discloses that a relative height difference in a patterned layer of an integrated circuit may degrade the operating characteristics of the integrated circuit and thus, prove to be a defect (column 1, lines 32-41); therefore, Kim discloses predicting a defect in the integrated circuit by detecting such a height difference on a layer of an integrated circuit, through the measure of the pattern density.

11. Regarding claim 14, Kim discloses “a system for obtaining an effective pattern density” in an “integrated circuit” including: “means for defining a grid of pattern cells” on a layer of an integrated circuit (column 17, lines 18-22); means for determining a pattern density or the amount of metal within a given area in each grid element and thereby computing a measure of the pattern density from the area of the metal (column 17, lines 23-25).

12. Regarding claims 2, 15, the Examiner takes official notice that copper is widely known in the semiconductor industry to be used for fabrication of chips and printed circuit boards and it would have been obvious to one of ordinary skill in the art at the time the invention was made to use copper, in Kim’s integrated circuit, for its increased

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conductivity and for its cheaper cost as compared with other conductive metals such as gold and silver.

13. Regarding claims 3, 16, the Examiner takes official notice that rectangular shape is widely known to be used in defining a grid system and it would have been obvious to one of ordinary skill in the art at the time the invention was made to define Kim's grid of pattern cells to have rectangular cell-shape in order to perform systematic mathematical calculations of the density measurement.

Allowable Subject Matter

14. Claims 4-7, 9-13, 17-20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US Patent 5,552,996 to Hoffman et al.

US PG Publication US 2003/0196181 to Sano et al.

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Samir M. Shah whose telephone number is (571) 272-2671. The examiner can normally be reached on Monday-Friday 9:00 am to 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron Williams can be reached on (571) 272-2208. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

David G. Smith
SMS

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